ABSTRACT

Methods and apparatus are disclosed for verifying the integrity of an index or result produced by a content-addressable or associated memory or other device. A pre-computed data protection field is stored, either as part of a returned index of a content-addressable memory or in a separate storage. In one implementation, a data protection operation is performed on all or part of the returned index and a comparison is made with a pre-computed data protection field. In one implementation, a copy of the masks employed by a ternary content-addressable memory and a set of pre-computed data protection fields are stored. A particular mask and pre-computed data protection field are selected based on the generated index. The original input value is then masked by the selected mask and provided to a data protection function. The result of this function is then compared to the selected pre-computed data protection field.

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